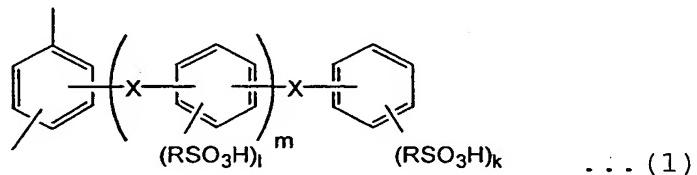


**ABSTRACT**

Disclosed are a polymer electrolyte having improved hot water resistance and radical resistance, a proton conductive membrane comprising the polymer electrolyte, and a

- 5 membrane-electrode assembly including the proton conductive membrane.

The polymer electrolyte comprises at least one polymer selected from polyether, polyketone, polyetherketone, polysulfone, polyethersulfone, polyimide, polyetherimide, 10 polybenzimidazole, polybenzothiazole, polybenzoxazole and the like. The polymer comprises a repeating structural unit with either or both of an aromatic ring and a heterocyclic ring, and a repeating structural unit represented by the formula (1) :



- 15 wherein X is a single bond, an electron-withdrawing group or an electron-donating group; R is a single bond,  $-(\text{CH}_2)_q-$  or  $-(\text{CF}_2)_q-$  where q ranges from 1 to 10; m is from 0 to 10; k is from 0 to 5; l is from 0 to 4; and  $k + l \geq 1$ .